SNEAK PEEK AT A CLINICAL CASE:

Rebecca is a 21-year-old competitive collegiate runner on her university's track team. Her primary complaint is frequent episodes of "giving way" of her right ankle that occur approximately twice a week. She has substantially reduced her training schedule for fear that it will occur again. Rebecca's coach encouraged her to seek care during the off-season to address the issue after noting a decline in her performance, so Rebecca has come to your office.

Rebecca notes that she incurred a first-time ankle sprain 14 months prior. She was seen by a primary care provider outside of the university health care system to avoid being pulled from competition. Following interpretation of an unremarkable radiograph, the clinician informed Rebecca that her injury was "just an ankle sprain" and provided advice to rest, apply ice, and compress and elevate the ankle. She was prescribed a course of nonsteroidal anti-inflammatory medication and was given some ankle ROM exercises. Rebecca's perception of instability and episodic giving way during walking and running has been a problem since the initial injury and has not improved, despite relatively pain-free function (1/10 pain at worst) and her ability to run 6 km competitively.

1 At this point in the interaction, you suspect that Rebecca has chronic lateral ankle instability (CAI). What impairments do you expect to find when you examine Rebecca?

A. Warmth and slight swelling about the involved ankle, loss of ankle plantarflexion range of motion, painless weakness (< 3/5 on the involved side, 5/5 on the uninvolved side) of the ankle dorsiflexors, antalgic gait.

B. Grossly unremarkable gait, worse performance on the Star Excursion Balance Test (SEBT) on the right side, loss of ankle dorsiflexion ROM, slight tenderness to palpation of the lateral ankle ligaments.

C. Pain with end-range ankle dorsiflexion, reproduction of symptoms with the Kleiger test, tenderness to palpation at the distal tibiofibular joint, instability to valgus stress testing of the ankle.

D. Pain with palpation of at least 5 consecutive centimeters of the anteromedial tibia, painful resisted testing of the tibialis posterior tendon, flexible pronated foot posture.

You complete your examination and have the following findings:

- Gait: grossly unremarkable
- Observation: no soft tissue swelling, ecchymosis, or deformity in either ankle but noticeable tread wear on the lateral aspect of the heel of her running shoes
- Beighton scale: 7/9 (substantial generalized laxity)
- FPI-6: 3
- ROM: right ankle dorsiflexion (non-weight bearing, knee extended) = 5° (versus 18° on the left side); right ankle dorsiflexion (weight-bearing lunge test) = 34° (versus 48° on the left side)
- Strength: right ankle dorsiflexion, inversion, eversion = 4/5 (versus 5/5 on left side); right great and lesser toes flexion = 4/5 (versus 5/5 on the left side)
- Joint accessory motion testing: bilateral hypermobility with anterior drawer, talar tilt, and forefoot on hindfoot inversion/eversion
- Balance: reach distance of 50% of lower extremity length during the Star Excursion Balance Test on the right lower extremity (versus 82% on the left lower extremity); increased errors during the foot lift test on the right side versus left side during both eyes closed and eyes open conditions
- Sensory testing: diminished sensation during monofilament and vibration testing
- Proprioception testing: gross errors when attempting to replicate a prepositioned joint angle or movement with eyes closed
- Palpation: discomfort (pain = 1/10 to 2/10) to palpation of the anterior talofibular, calcaneofibular, deltoid, talonavicular, and calcaneocuboid ligaments

2 After the examination, Rebecca asks you to prescribe a short home exercise program. Given the examination findings described above and Rebecca's goal for physical therapy, what should you teach Rebecca that will address the primary problem?

A. To practice proper jumping and landing techniques in front of a mirror.

B. Seated calf stretches with the knee flexed and extended and active ROM exercises for the ankle and foot.

C. Four-way resistance band exercises to strengthen the ankle dorsiflexors, plantarflexors, invertors, and evertors.

D. To perform standing calf stretches and single leg balance with her eyes open and closed.

AOPT

CONTACT US

(800) 444-3982

www.orthopt.org

2920 East Ave S. Ste 200
La Crosse, WI 54601

SNEAK PEEK AT A CLINICAL CASE:

3 After Rebecca leaves, you sketch out her plan of care. Which of the following interventions is least likely to help Rebecca return to her prior level of function over the next 4 weeks?

A. Ankle strengthening in all planes with functional movements.

B. Advise Rebecca to avoid running, as this may result in more episodes of instability.

c. Restoration of ankle dorsiflexion range of motion using exercise and manual therapy.

D. Provide encouragement and support to improve her self-efficacy and resilience during her return to competitive running.

4 Which outcome measure is best to measure Rebecca's progress during the course of her rehabilitation?

A. Foot and Ankle Ability Measure-sports subscale (FAAM-sports).

B. Foot and Ankle Ability Measure-activities of daily living subscale (FAAM-ADL).

C. Victorian Institute Sports Assessment-Achilles (VISA-A).

D. Lower Extremity Functional Scale (LEFS).

QUESTION 1 ANSWER EXPLANATION

The correct answer is b. Grossly unremarkable gait, worse performance on the Star Excursion Balance Test (SEBT) on the right side, loss of ankle dorsiflexion range of motion, slight tenderness to palpation of the lateral ankle ligaments. These impairments are similar to those commonly found in individuals with CAI. Answer a. is incorrect because, without a recent injury, Rebecca would be unlikely to present with warmth and swelling about the ankle. Additionally, the profound (< 3/5) painless weakness of the ankle dorsiflexors is more likely associated with a neurogenic problem rather than ankle instability. Answer c. is incorrect because these findings are more consistent with a high or medial ankle sprain. The findings described in answer d. are more consistent with a diagnosis of medial tibial stress syndrome.

QUESTION 2 ANSWER EXPLANATION

The correct answer is d. To perform standing calf stretches and single leg balance with her eyes open and closed. This is the best answer because it addresses both her decreased ankle dorsiflexion range of motion and her balance impairment. Prescribing exercises to improve her balance also directly addresses her primary complaint: her frequent episodes of instability. Although answer a. may help address Rebecca's instability, this is not the best initial exercise, as jumping is an advanced activity and could put her at risk of another episode of giving way. Answers b. and c. address Rebecca's deficits (decreased dorsiflexion range of motion and decreased ankle strength), but these do not directly address her primary complaint of instability and are therefore not the best choices.

QUESTION 3 ANSWER EXPLANATION

The correct answer is b. Advise Rebecca to avoid running, as this may result in more episodes of instability. Answer b is the least unlikely way to help Rebecca to return to her prior level of function, as it may facilitate fear-avoidance behaviors.

QUESTION 4 ANSWER EXPLANATION

The correct answer is a. Foot and Ankle Ability Measure-sports subscale (FAAM-sports). This is the best answer because her limitations are related to sports rather than activities of daily living and the FAAM-ADL would likely be unable to detect her higher-level deficits. Additionally, the FAAM-sports has been shown to be responsive to change over the course of 4 weeks of rehabilitation in this population. The VISA-A is specific to Achilles tendon pathology and would not be appropriate for a patient with CAI. Finally, answer d. is not the best choice because the LEFS is not specific to the foot-ankle complex or to CAI.

AOPT

CONTACT US

(800) 444-3982

www.orthopt.org

2920 East Ave S. Ste 200
La Crosse, WI 54601